

HOT OFF THE RAIL

NAVAL AIR SYSTEMS COMMAND

Vol. 1 No. 2

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Navy-led ACAT ID Program
Prime Contractor: Raytheon Tucson, AZ

"Whenever you are asked if
you can do a job, tell'em
"Certainly I can!" and get
busy and find out how to do
it"

-Theodore Roosevelt

What's Inside:

JSOW: History

**Scuttlebutt: New Fleet
Liaison Offer, NAWCWD
Web-site launched,**

**Comments/Suggestions/
FAQ's**

**PMA-201: CAD/PAD
Team Selected For David
Packard Award**

**PMA-242: Maverick
Testing**

**PMA-258: SLAM-ER
ATA Hammers Target**

PMA-259: Captive Carry

SYSTEM DESCRIPTION

The Joint Standoff Weapon (JSOW) is a family of kinematically efficient (~12:1 glide ratio)

1000-lb class, air-to-surface glide weapons that provide for low observability, multiple kills per pass, preplanned missions, standoff **precision engagement**, and launch and leave capability against a wide range of targets during day/night, all weather conditions. All three JSOW variants employ a tightly coupled Global Positioning System/Inertial Navigation System (GPS/INS). JSOW is employed as a force multiplier in a joint warfare environment for interdiction of soft/medium fixed, re-locatable and mobile light and heavy armored targets, massed mobile armored targets, anti-personnel, and air-to-surface threats. The weapon will be both land and carrier based.

Mission planning will be accomplished using the Navy's Tactical Automated Mission Planning System (TAMPS) and the Air Force Mission Support System (AFMSS). Integration of operations with the Joint Mission Planning System (JMPS) is planned. JSOW will be employed on the following aircraft: F/A-18C/D, and E/F; F-16C/D (Blocks 50, 40, 30); F-15E; JSF: B-1B; B-2A; and B-52H.

Total Number of Systems:	19,114
154A:	8,800
Navy; 3,000 AF	
154B:	1,200
Navy; 3114 AF	
154C:	3,000 Navy
FY03 Hardware Unit Cost:	
154A:	\$199K
154B:	\$323K
154C:	\$315K
Full-rate production:	
154A:	1QFY99
154B:	4QFY03
154C:	1QFY04

The weapon comes in three operational variants.

- AGM-154A (JSOW Baseline) – Navy and USAF: The payload of the AGM-154A consists of 145 BLU-97/B submunitions. The BLU-97/B is a combined effects munition. The bomblets have a shaped charge for an armor defeat capability, a fragmenting case for material destruction, and a zirconium ring for incendiary effects. JSOW Baseline is designed to conduct pre-planned attacks on stationary soft targets such as: air defense sites, parked aircraft, components of airfields and port facilities, command and control antennas, stationary light vehicles, trucks and artillery, and refinery components.

- AGM-154B (JSOW BLU-108) – Navy and USAF: The payload for the AGM-154B is the BLU-108 submunition from the Air Force Sensor Fuzed Weapon (SFW). JSOW will carry six BLU-108s, each of which dispenses four warheads or skeets. The skeets carry an infrared or dual mode sensor, and upon detecting a target, will detonate to create an explosively formed penetrator that impacts the target. This system is an interdiction weapon with a target set identical to the Sensor Fuzed Weapon (SFW), which consists of mixed units of tanks, infantry fighting vehicles/armored personnel carriers and trucks in a tactical road march formation.

- AGM-154C (Unitary Variant) – Navy only: The AGM-154C, in addition to the common INS/GPS guidance, will use an autonomous Imaging Infrared seeker for target acquisition and terminal guidance. The AGM-154C will carry the BAE multiple warhead system (Broach), and is designed to attack point targets such as industrial facilities, logistical systems, and shipping locations.

BACKGROUND INFORMATION

AGM-154A, Baseline Variant

Milestone III for the AGM-154A was October 1998. DOT&E observed Navy OPEVAL and Air Force IOT&E in FY97-98. During FY98, DOT&E performed an independent LFT&E assessment on the lethality of AGM-154A JSOW/BLU-97 based on data obtained from the BLU-97 Insensitive Munitions (IM) warhead characterization test, DT-IIC and OT-IIA live missile drops and OPEVAL live drops. The results of the assessment were included in the combined AGM-154A Operational and Live Fire Test & Evaluation Report to Congress.

In April 2000, material defects were discovered in the payload rails and were identified as safety of flight critical to the BLU-97 payload assembly of the JSOW AGM-154A (baseline) variant. The program office removed the AGM-154A JSOW from flight status. Subsequently, AGM-154A JSOW was released for restricted combat operations. The problem was identified and the corrective action to go to a new rail supplier was implemented and new rails began delivery in Jul 00. As of March 2001, the Fleet rail retrofit is 90% complete with less than 20 units remaining to be completed.

AGM-154B, BLU-108 Variant

LRIP for the AGM-154B was granted 1QFY99. The AGM-154B Milestone III decision is currently scheduled for 4QFY03. This has been slipped due to the on-going engineering change proposal to redesign the Low Cost Control Section (LCCS).

AGM-154B LFT&E is based upon live fire testing conducted for the Sensor Fuzed Weapon program. Due to the delays in the SFW Preplanned Product Improvement (P3I) program, the JSOW Joint Program Office funded the SFW program to develop a baseline BLU-108 warhead modified to incorporate an IM fill (PBXW-11 explosive). The PBXW-11 IM fill performance was equal/greater than the previous OCTOL fill BLU-108 warheads. Because of the JSOW program slip, all buys of AGM-154Bs will have the P3I warhead.

AGM-154C, Unitary Variant

In 3QFY01, the Navy awarded contracts to integrate the Broach Multiple Warhead System into the JSOW Unitary (AGM-154C) program. This is the JSOW Program Manager's first step to honoring his promise to fulfill the Fleet requirement for a standoff blast/fragmentation weapon that adds hard target penetration capability. The Broach warhead is made by BAE Systems and consists of an augmenting charge and follow-through bomb. The program completes integration in 2002, followed by a Low Rate Initial Production contract of approximately 75 weapons. Delivery to the Fleet will begin in 2004.

Operational Use

As of February 2001, 94 AGM-154A weapons have been employed against fixed and

relocatable targets in combat operations in Operation Southern Watch and Operation Allied Force. Battle damage accuracy assessment estimates exceed requirements for the weapon dispensing over the planned target area.

The JSOW program has conducted simulations to duplicate/validate the AGM-154A performance during recent combat operations in the Southwest Asia Theater. As a result, revised mission planning guidance has been provided via Fleet message to ensure optimal JSOW performance while minimizing impact to employment flexibility. The JSOW program is conducting several launch tests that further verify this guidance. A longer-term solution to the JSOW guidance software is in work to reduce these mission-planning considerations. The AGM-154A weapons in the Fleet remain fully serviceable and have displayed excellent operational performance.

Program Challenges

The most significant JSOW FRP technical issue is the performance of the new Low Cost Control Section (LCCS) on the F-16 in the low altitude, high Mach environment. Excessive component wear, BIT false alarms, and navigation anomalies have occurred in an extremely severe under-wing environment that is unique to the geometry of the F-16 JSOW loading. To date, all indications are this issue is limited to the F-16 and does not impact the F/A-18C/D/E/F or other USAF platforms. This issue has necessitated an 18-month control section engineering change to fully meet the F-16 performance requirements. HQ Air Combat Command has suspended JSOW's F-16 operational capability until such time that the F-16 performance requirement can be met. Future production contract awards will be contingent on the successful performance and insertion of this engineering change. This issue has also delayed start of the AGM-154B Multi-Service Operational Test and Evaluation (MOT&E) until December 2002. Fleet delivery of the AGM-154B variant with the LCCS engineering change and preplanned product improvement BLU-108 submunition is planned to begin in 2003.

The new revision OPNAVINST 8000.16A is scheduled for release around the June timeframe. The OPNAVINST 8000.16 dated 1 Sept 1999 is the current instruction.

New Fleet Liaison Officer:

LT (USN) Eric Lewis has checked as a member of the Tactical Weapons Logistics Division. He resides in PMA-259 Air-To-Air Missiles Program Office at 301-757-7282, his email is: lewisec@navair.navy.mil. His bio is on page 10.

New WD Internet Site Launched!

Thursday April 26th, Dr. Higgins and I "threw the switch" to formally launch the new NAVAIR Weapons Division Internet website! The comprehensive website upgrade is a milestone for WD and I wanted to share a few highlights with you. The site features 20 new facility fact sheets, "Major Accomplishments," "WD Firsts," "World Crises Involvement," and "People/Awards." It has a dynamic new homepage design and an entirely new navigational structure. In addition, the site incorporates NAVAIR branding ideas to help educate customers and includes numerous new links to other team sites, strengthening ties within NAVAIR. I strongly encourage everyone to review the new site. It is filled with useful information for WD and NAVAIR. It showcases our many accomplishments through the years and focuses on our dynamic workforce and the great work that all of you do. Please bookmark the new URL; <http://www.nawcwgwd.navy.mil/> and share it with your customers and the Fleet. (Note: the URL for the old WD Site, that you may have already book marked, <http://www.nawcwpns.navy.mil/> will also work just fine. Either bookmark will get you to the new site.)

ADM Bert Johnston

NATEC Website printing:

Reading the March issue of "Hot Off the Rail" in the scuttlebutt section, it states, "Ordies are encouraged to print a copy or 2 of the new checklists/manuals for immediate use."

My question is, are we authorized to copy an entire publication from the website? Last I have read and been informed by QA is that this procedure is not authorized. We however have copied entire checklists due to how small they are, but they have to be maintained in QA. We are doing nothing more but trying to use a common sense approach concerning the checklist.

CWO-2 B. A. DuBose

VMFA-122 Ordnance Officer

(843) 228-7412

NAVAIR Jobs – Employment Opportunities:

On the front page of the CNO Red Shirt Web page you will find a link to NAVAIR Jobs-Employment Opportunities. This will give everyone an opportunity to review current advertisements at different sites. Included on this web page are job application (Instructions/Forms) and POCs.

PMA242 Marine Programs:

Two successful demo flights of the AGM-114 Hellfire Blast Frag missile were accomplished on May 16, 2001 at Eglin AFB.

The PGUA/B and PGU-30A/B flight clearance was released for the F/A-18.

NSWC Crane Celebrates 60th Anniversary:

The year 2001 marks NSWC Crane's 60th Anniversary, which was celebrated this year in conjunction with its observance of Armed Forces Day on 19 May 2001. More than 3,000 people were in attendance. CAPT Scott Wetter, Commander NSWC Crane, and Mr. Duane Embree, Executive Director, NSWC Crane, hosted the day of events. U. S. Representative, John N. Hostettler, Indiana 8th District, was guest speaker and U. S. Representative, Brian D. Kerns, Indiana 7th District, and State Representative, Peggy Welch, District 60, were also among special guests for the observance. Grand Marshal for the celebration Parade was VADM W. B. Short (Ret) who recently celebrated his 98th birthday. VADM Short was responsible for starting the construction of Crane in the 1940's. A few of the featured events for the day included a Parade, the Great Lakes Navy Band, pontoon boat rides on Lake Greenwood, train rides throughout the scenic areas, a diving tank, local entertainment, Antique cars, a Century Dog Show, and a fun carnival for the kids.

Upcoming Meetings/Conferences:

CAD/PAD 2001 ILSMT 26-28 June at College of Southern Maryland, La Plata, MD.

This section is for local gossip that has been “CONFIRMED” or known to be TRUE, if you would like to contribute some juice then contact Susan Stickell at sstickell@lpxk.ccicorp.com or (301) 866-0087 x 267.

COMMENTS/SUGGESTIONS/FAQ's

The intent is to put this newsletter out every month, if you have any comments, suggestions, or concerns about it's contents, desires for certain types of articles or data concerns that will improve the quality of the newsletter or questions that you would like answered, please direct them to Susan Stickell at sstickell@lpxk.ccicorp.com or (301) 866-0078 x 267 and they will be answered in the next issue. If you need an answer before that, please call it to her attention.

The next issue will be distributed on 29 June 2001; all submissions MUST be in NLT 22 June

**“WE ARE KEENLY AWARE THAT THOSE WHO ARE IN A POSITION
TO EXPAND ORDNANCE MAY ONLY HAVE ONE CHANCE, SO THAT
PIECE OF ORDNANCE MUST WORK....
THE FIRST TIME, EVERY TIME.”**

**RADM ROBERT SUTTON
NAVAL ORDNANCE CENTER**

SAFETY

It has been stated that safety is a “state of mind.” This state of mind must be enforced from the highest echelons within the chain of command down to the lowest working level. Leaders must demonstrate their knowledge and awareness of safety requirements daily.

Since ordnance is hazardous by design, **everyone** in the command **must have knowledge of safety principles and safety precautions.** This knowledge must be installed through training, coupled with qualified supervision and combined with a good leadership at all levels.

Basically, ordnance is dangerous because the explosive or high-pressure gas-producing materials used can kill or injure people, or can damage complex and expensive weapons systems. Also, because of their mechanics hazards, the guns, bomb racks, launchers and external stores are capable of crushing to death or maiming any careless ordnanceman or unwary maintenance person.

Accidents are caused because people either don’t know or don’t observe existing ordnance safety precautions.

Safety precautions must be taken seriously. Each Airborne Weapons/Stores Loading Manual and Conventional Weapons Checklist is filled with specific, as well as general, safety precautions for each loading and unloading evolution. Your life, or that of a shipmate, rests n strict compliance with their stated terms. You must have through working knowledge of all applicable safety precautions. Learn from reading and then practice your knowledge through training. They key to all safe and reliable ordnance evolutions are to pay attention to those “WARNINGS,” “CAUTIONS,” and “NOTES” and never take short cuts.

SAFETY

IS

PARAMOUNT !!



CONVENTIONAL STRIKE WEAPONS

PMA-201

CAD/PAD TEAM SELECTED FOR DAVID PACKARD AWARD

By Dale Thomas – NSWCIHDIIV

The Department of Defense (DoD) selected the CAD/PAD Program's Supply Process Reengineering Team to receive the David Packard Excellence in Acquisition Award. The award will to be presented Sept 10th at DOD's Acquisition Reform Ceremony at the Pentagon. The award honors the late David Packard, founder and chairman of the Hewlett-Packard Company, former Deputy Secretary of Defense under President Nixon, and chairman of a blue ribbon defense commission (the "Packard Commission") under President Reagan. The Packard Award recognizes teams that have demonstrated great innovation and results in acquisition.

The CAD/PAD Team was selected for reengineering the U.S. Navy and Marine Corps process for ordering, processing, shipping, and receiving critical explosive components. CAD/PADs are installed in escape, emergency, and recovery systems throughout naval aviation. These components are service life driven and must function perfectly every time to facilitate aircrew ejection, equipment operation or recovery, and perform other functions during in-flight emergencies. The U.S. Navy and Marine Corps keep 175,000 CAD/PADs in inventory supporting 45,000 Fleet maintenance transactions annually.

The historical supply process was paper-laden and labor intensive, requiring up to four months lead-time. Even with these lead-times, deliveries missed the Fleet's needs over 60% of the time. To compensate for the systematic supply system failure, Fleet activities maintained excessive retail (local) stocks, hoarded the product, or relied on service life extensions to keep aircraft flying and equipment operational.

Reacting to the Fleet's reoccurring complaints at the annual Integrated Logistics Support Management Team/Fleet Support Team meetings, the CAD and PAD APMLs envisioned a new approach that would link maintenance data collected when Fleet maintainers installed the product, to existing logistics and technical data, automatically creating supply requisitions. The APMLs further envisioned the wholesale sites operating more like a commercial fulfillment operation, structured to meet the customers' expectations.

During this project, the Team surveyed the four different process owners: maintenance personnel; station and ship ordnance management personnel; Fleet management chain-of-command; and stock point, inventory, and management personnel. The team also conducted over twenty site visits, including two benchmarking visits to commercial fulfillment companies. Analyzing and modeling the data collected, the team recommended and obtained approval of the best option – stockpile consolidation including automation of key processes. During the BPR phases, the team involved over 1000 people in the definition of the historical process and the development, prototyping, and implementation of the approved solution.

The Team considers one of their most important results to be redefinition of the customer -- from the structure that historically maintained the retail stock to the "white/green hat" that require the product for aircraft maintenance or deployment. This paradigm shift enabled many other improvements such as "bundling" CAD/PADs to meet customer maintenance needs, automation of the backorder and service life extension processes, tracking of deficiency reporting requirements, and elimination of redundant receipt inspections at customer sites.

The Team achieved the APMLs' vision, automating creation of CAD/PAD orders using existing maintenance data, thereby eliminating cumbersome Fleet forecasts and individual item requisitioning. Ordering is now by phone, email, or fax, more like commercial catalog operations. The link with the maintenance data enables the stock point to validate requirements, thus preventing unnecessary shipments. To minimize delivery time, the stock point now ships orders by commercial, small package carriers, primarily FedEx, whenever the hazard classification permits.

CAD/PAD re-supply time has been reduced from four months to an average of 7.9 days within the continental United States. The Fleet now orders under a 14-day lead-time and can rely on delivery. Local stock is no longer required except to cover emergency needs. This BPR project reduced Fleet labor requirements by over 45 work years, generating a Fleet cost avoidance of \$3.2M annually, a significant achievement on a "small" program such as CAD/PAD. At the same time, the Program was able to consolidate wholesale stock at a single stock point and reduce the global stockpile, while supporting a stable Fleet maintenance requirement.

This achievement would not have been possible without the dedicated support of Indian Head's stock point personnel. Bundling and shipping explosives are tedious work given the myriad of regulations and the process detail involved. In the historical process, the highest priority orders (03-999) averaged 21-days. Through the stock point efforts, routine orders now deliver in less than eight days.

Conventional Strike Weapons Website:

[HTTP://PMA201.navair.navy.mil](http://PMA201.navair.navy.mil)



DEFENSE SUPPRESSION

PMA 242

The NAVAIR Team recently provided MAVERICK testing/ maintenance capability to Naval Airborne Maintenance Unit One (NAWMU-1) located in Guam. In February of this year, CINCPACFLT requested that NAVAIRSYSCOM provide the assets and training to NAWMU-1 that would allow them to test and repair MAVERICK missiles in-theater, rather than returning those assets to CONUS depots and enduring the cost and down time associated with that process. The NAVAIR Team, consisting of PMA-242, NAWC-WD, and NWS Seal Beach/ Detachment Fallbrook, developed a plan to provide this capability to NAWMU-1 by May. While work began to repair and calibrate equipment to be sent to NAWMU-1, a training schedule was developed to coincide with the arrival of the equipment at Guam. In April, equipment and training personnel arrived at Guam and training was completed by the end of April. NAWMU-1, now equipped and trained to test the MAVERICK missile, is presently deploying to support fleet MAVERICK testing requirements worldwide.



AIR-TO-AIR MISSILES

PMA-259

AIM-9M Sidewinder Depot Transition Update

Tobyhanna Army Depot, PA recently began repairing and testing Air Force and Navy AIM-9 Sidewinder guidance and control sections (GCS). Army and Navy technicians have been making final adjustments to test equipment in a \$6.7 million dollar renovated facility where repair and testing will take place.

The Sidewinder GCS contains an infrared gyroscopic component that keeps the missile on target and feeds flight course corrections to control systems that move the fins that direct the missile to its target.

Tobyhanna is currently testing the first 90 Air Force GCSs on Navy Test Equipment. The Navy recently certified Tobyhanna's production capability and equipment. "We will complete 30 Air Force Sidewinder GCSs per month for three months," said Michael Fisher, Chief of the Advanced Communications Security Technologies Division. "Once we show we can successfully execute the workload, then we'll transition Air Force equipment to Tobyhanna and begin the full compliment of Air Force, Navy and Foreign Military Sales Sidewinder GCS work," he added.

"Each GCS is disassembled and the components tested at one station then sent to a second station for further testing. Technicians give the GCS a leak and flow test to make sure seals are not broken. Mechanics rebuild the maneuvering fins' pistons, lubricate and install new seals. The gyro is removed and sent to a clean room for testing and repair. The clean room is filtered to remove any dust or other contaminant that could degrade the gyro's performance.

Afterwards, the GCS is reassembled and placed on a bore sight station, which tests the gyro by using a light that the gyro must follow precisely.

The GCS is then placed on a rate table to calibrate the maneuvering fins, which is done by verifying the torque needed to move the fins. When all the components are working correctly, the missile is sent to the final preparation station where seals are installed into the holes that contain the maneuvering fins' pistons.

Tobyhanna will repair and test GCSs for two other missiles, the AIM-7 Sparrow and the AGM-65 Maverick. Production for those systems will be phased in throughout this year.

Captive Carry Reporting – More Paperwork or a Warfighting Tool?

If you've been around the Navy or Marine Corps for any length of time, at some point you've heard folks squawking about filling out Captive Carry Reports. Is the report just another mandate from an OPNAV instruction, preventing you from an opportunity for another cold slider or missing that last bowl of auto dog? Perhaps there's a true meaning, a purpose that supports the Warfighter. If you were to pull out your OPNAVINST 8000.16 CD and scroll down to section 3.2.3.2 you would read something like this:

A captive carry event occurs whenever a missile is loaded on a launcher station and the aircraft becomes airborne. Weapon system performance shall be reported using the Airborne Weapons Captive Carry Log.

Now have the mandate, how about the Fleet benefits. Today, more than ever before, captive carry reporting is critical to Fleet operations. Your NAVAIR Team utilizes your data input to capture critical weapons information. One example occurred on the F/A-18E/F during the Engineering Manufacturing Development Phase. An AIM-9M Sidewinder forward hanger fractured following 89 flight hours on the Super Hornet. Unfortunately, there was little data for engineers and logisticians to determine actual flight time on that particular broken hanger. Hence, much of the follow-on development and testing of a new hanger was based on a fractured hanger with limited flight time, i.e. 89 hours.

During July 2001, the Fleet will receive modified Sidewinders and Sparrows at NAS Lemoore in support of the standup of VFA-115, our first deploying F/A-18E squadron. These weapons and perhaps others will have flight time limitations requiring accurate tracking of captive carry flight hours of both tactical missiles as well as CATMs. Replacement of critical parts such as Sparrow Launch Lugs will be based solely on Fleet tracking of flight hours. Another side benefit of the accurate reporting will provide critical data to engineering teams, perhaps allowing them to extend the hour requirements, thus reducing Fleet impact.

Accurate captive carry reporting will certainly become a team effort between our Warfighter's and the NAVAIR team. Working closely together will ensure the success of the Navy's newest Strike Fighter, the F/A-18E/F Super Hornet.



STANDOFF MISSILE SYSTEMS PROGRAM PMA-258

SLAM-ER ATA Hammers Target in Flight Test Debut

The Navy's Standoff Land Attack Missile - Expanded Response (SLAM-ER) program successfully conducted its first developmental test launch of a SLAM-ER equipped with the new Automatic Target Acquisition (ATA) capability April 25 at the Naval Air Warfare Center Weapons Division China Lake, Calif. The SLAM-ER was launched from an F/A-18C/D aircraft piloted by Lt. Cmdr. Russ McCormack more than 75 miles from the target. Lt. Cmdr. Keith Henry who piloted a second F/A-18C/D utilized the cockpit display cues provided by the missile's ATA system to identify and prosecute the target from a standoff range exceeding 50 miles. The target for this test was a simulated surface-to-air missile battery on the NAWCWD land test range. The SLAM-ER scored a direct hit. Lt. Jason Bayer flew chase on the missile as it executed altitude changes, terrain following, and numerous waypoint turns enroute to the target. The ATA system, which adds a small, internal hardware module to the missile as well as missile and mission planning software modifications, provides SLAM-ER's standoff control pilot with real-time target cueing on the F/A-18's cockpit display, aiding the pilot in finding the desired target and aimpoint. The Tactical Aircraft Mission Planning System (TAMPS) is used to plan ATA missions, a process which includes preparation of a satellite image for use by the missile. During post start ground checks, the mission and satellite images are downloaded to the missile from the aircraft. During the flight, and shortly after seeker turn-on, the missile's ATA system decompresses the satellite image and begins matching the image to real time seeker video. ATA is designed to assist SLAM-ER operators in conducting strikes against targets in cluttered scenes and targets that may be obscured by counter-measures or other environmental conditions. Today's test will be followed by a number of other developmental and operational flight tests. The Navy is scheduled to authorize fleet use of the ATA features of SLAM-ER in early 2002 following successful completion of all testing requirements. SLAM-ER reached full-rate production milestone (III) in May 2000, as reflected in the signing of the Acquisition Decision Memorandum by Dr. Lee Buchanan, then Assistant Secretary of the Navy (Research, Development, and Acquisition). The missile is an evolutionary upgrade to the SLAM. SLAM-ER fills an operational need for a surgical strike capability against high value, fixed land targets and ships at sea or in port, at standoff ranges greater than 150 nautical miles. SLAM-ER has been used successfully in combat and is now routinely deployed with Navy carrier battle groups.



Marine Aviation Ordnance celebrates 79th Birthday

Below is an extract from a Birthday message from LtGen F. McCorkle, (DC, AVN)

On 25 April 2001, Marine Aviation Ordnance Celebrates its 79th anniversary. Its origin dates back to 1918 during World War I when the first Marine Aviation Force became part of the Western allies northern Bombing Group. At the conclusion of the war, the 1st Marine Aviation Force was credited with dropping 18,000 pounds of Ordnance and shooting down 8 enemy aircraft. As the future roles of Marine Aviation expanded, the need for trained and qualified

Specialists was generated and subsequently rewarded with the publishing of T/O number 37 on 25 April 1922 when structure for "Gunnery Personnel" was authorized. The term "Gunnery Personnel" was later changed to "Ordnance" by publication of T/O number 23 on 7 February 1935 and continued to serve our needs within the Aviation Ordnance community.

Since 1922, Marines within the Aviation Ordnance community have continuously served with honor, pride, and dedication. Their faithful service prevailed under arduous conditions during the many conflicts in which Marines have engaged the enemy.

Success during the Banana Wars, World War II, Korea, Vietnam, Desert storm, and Noble Anvil could not have been accomplished without the perseverance, devotion and loyalty of the Aviation Ordnance community. The legacy, Esprit de Corps, and camaraderie forged in bomb dumps, on flightlines and flight decks in the far-flung reaches of the world has become a defining quality of the Aviation Ordnance community. You can be proud of your past and look forward to a future of continued service to our Corps.

Today, many elements of the Marine Corps are deployed and continue to operate from both land and sea bases around the world. As always, you continue to perform superbly and have met the Challenges head on. Your enthusiasm, professionalism, creativity and capability to respond on a moments notice will ensure our Hallmark of delivering ordnance on target, on time. I want to extend my congratulations to the Aviation Ordnance community on their 79th anniversary. Semper Fidelis and Happy Birthday!



For 79 years, in every clime and place. Marine Aviation Ordnance.

Bravo Zulu:

Sergeant Collinson (shown below with Wife Tiffany) was selected as the 2001 West Coast Marine Aviation Ordnance Person of the Year. Sergeant Collinson is an Aviation Ordnance Technician assigned to Marine Aviation Logistics Squadron (MALS) 13. Sergeant Collinson's superior performance of duties Was further recognized with the presentation of a Plaque (below) by Major Tom Becker the MALS-13 Aviation Ordnance Officer. **GREAT** job and keep leading by example.



AMRAAM IS ELIMINATING STEEL BANDING FROM UNIT LOADS

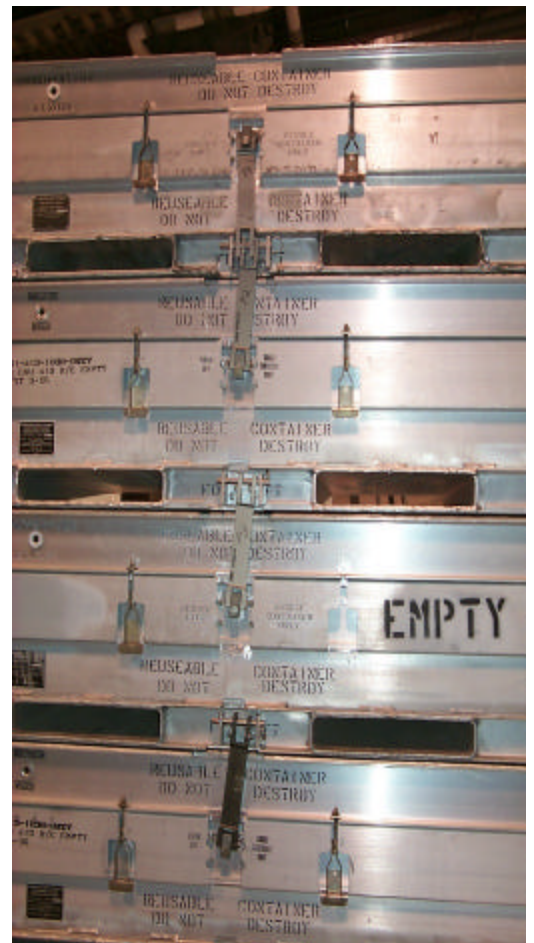
The aircraft carrier community is operating in the new millennium with manpower-reduction targets projected to be as high as 50%. The Fleet is extending a challenge to weapon system programs to come up with laborsaving initiatives to help the fleet maintain readiness and efficiency in this environment. The PHS&T Center, Earle, NJ has developed an interlocking container feature in response to this challenge.

Currently, Navy AMRAAM containers are unitized prior to transfer using two steel bands that are secured through the fork pockets of stacked containers. This is an operation that typically requires three persons (two workers plus a safety observer). Once the carrier receives the unit load, the strapping is often cut and discarded before the containers are transported below deck. The strapping is now waste material that must be stored then removed from the ship in an environmentally friendly manner. Carriers must then reband the containers prior to offload.

The interlocking feature utilizes a modified center lift bracket design and adds two pieces of aluminum channel and two ball-lock pins to the existing container design. As shown in the photos, the feature gets bolted to the "I" beam skid below the sealing line of the container. As a result, the cover does not have to be removed to retrofit an in-service container. The center lift from the bottom container is put in the vertical position and pinned to the aluminum channel bracket of the container above it using the ball-lock pin. Any number of stacked containers can be interlocked together. Using this feature, the man-hours required to assemble unit loads are reduced from .50 to .03, a 94% reduction. By enabling the Fleet to assemble and disassemble unit loads in less than one minute, ships can customize unit load configurations to maximize efficient use of the underway replenishment (UNREP) systems. In addition, the material, storage, and disposal cost associated with the steel strapping is eliminated.

The design concept shown passed all MILSTD-1660 Fleet Issue Unit Load Qualification Tests. In addition, the design has passed the MIL-STD-648 requirements for the HLU-216/E beam interface; the 3-1 pull test on the center lifts, and the single point pick-up test. In October 2000, shipboard evaluation was successfully conducted aboard USS ENTERPRISE with VERTREP and CONREP evolutions between USS DETROIT.

With the recent issuance of Reusable Container Change (RCC-15), the AMRAAM team has commenced implementation of this Affordable Readiness Initiative. Shipboard retrofit of CNU-415B/E containers to the new configuration (CNU-415C/E – NALC CWLY) will be accomplished by PHS&T Center personnel in conjunction with the fin un-lock re-work effort to be accomplished by Raytheon representatives and reprogramming by NAWC-WD personnel. It is expected that the shipboard retrofit/re-work/reprogramming will begin this summer. This combined shipboard project has been fully coordinated with the TYCOMS.



NEW AVIATION ORDNANCE PROGRAMS ACQUISITION

LOGISTICS OFFICER

LT Eric C. Lewis, USN is an LDO Aviation Ordnance Officer (6360) and is assigned to the NAVAIR Tactical Weapons Logistics Division as the Aviation Ordnance Programs Acquisition Logistics Officer (Code AIR-3.1.3B1).

He entered the Navy on 9 July 1982. After he completed boot camp and Apprenticeship training he went to Diego Garcia, for his first duty assignment. He was an undesignated airman, so he worked for crash and rescue on the flight line. In November 1983, he reported to HS-8 in San Diego, California where he was deployed on board the USS Ranger and USS Constellation. He made AO3 while on board. In July 1986, he reported to NAS Memphis, located in Millington, Tennessee, he worked for the security department making AO2 in 1987. He reported to VA-185, located in Atsugi, Japan in November 1988, working as the work center supervisor and later as the leading petty officer for the ordnance shop. The Squadron Deployed on board USS Midway. He advanced to AO1 in 1990.

He was assigned to VAQ-34 in January 1991 and applied for LIMITED DUTY OFFICER PROGRAM. LT. Lewis was selected for ensign on 1 June 1993 upon completion of LDO/CWO, AMO and AOOCP SCHOOL. He reported to VA-34 as Weapons Officer (Gunner) out of Oceana, VA, which deployed on board the USS George Washington until October 1996. He checked on board NAS Keywest from October 1996 to October 1998 as Weapons Officer (Gun Boss). LT. Lewis then reported to the USS Carl Vinson (CVN-70) ON 04 NOV 1998 as the G-3 Division Officer and he also served a year as the Ordnance Handling Officer. In February 2001, he transferred from the USS Carl Vinson and went to AOOCP School, Phase II and reported on board NAVAIR 3.1.3 in May 2001.



AIRBORNE WEAPONS INFORMATION SYSTEMS AIR-3.6.5

The Airborne Weapons Information System (AWIS) and the Naval Virtual Information Center System (NVIS) engineering personnel located at NAWC WD Point Mugu, CA have been working with the EI BPR Implementation Team of NAWC AD Patuxent River, MD in incorporating Ordnance Engineering Investigation (EI) into the NAMDRP EI Web Site. In addition the AWIS and NVIS personnel are in the process of developing a Web front end for hosting a new revision of the Discrepancy Reporting Log (DRLog) application. Their efforts will automate the entire Discrepancy Reporting (DR) process for ordnance by simplifying the submission of PQDR's and CODR's as well as speeding up their responses back to each Command's EI website for engineering investigations. This new product will provide the airborne weapons community with fleet-wide visibility on the status of deficiency reports, subsequent investigations, and corrective actions for both new production and in-service airborne weapons and applicable equipment available to the Fleet as well as their respective IPT team members.



The EI Web site is scheduled for beta testing this Aug 01 timeframe. The webized version of the Discrepancy Reporting Log is scheduled for beta testing this summer. The Fleet has used the Annual Airborne Weapons Corrective Action Program (AWCAP) CD for the recording of discrepancies for past couple of years. The AWCAP CD will be used for source data and information only. The new web based system will provide the Fleet with the ability to enter DRs directly on a web based program and track their individual DRs through to completion. More capabilities as well as other features are being planned in the future that will be introduced at a later date. The Web based reporting application is currently being reviewed by the Naval Safety Center and a meeting has been set up to ensure NAVSEA and all explosive safety requirements are thoroughly covered. In the event that an activity is unable to gain web access they can continue to maintain active records via message traffic as well as receive responses to the DRs in the present manner by using messaging centers to provide discrepancy reporting. Fleet wide release is scheduled for the August-September 01 timeframe. General information on this product can be obtained by contacting the AWIS Team at 805-484-6512. Detailed information regarding the DRLog web page can be obtained by Contacting Ms. Debra Dock at DockDA@navair.navy.mil. For any other Information Systems (IT) or AWIS programs contact Mr. Alfred Roscoe III the AWIS Program Manager, he can be reached at roscoead@navair.navy or 301-757-8908.

Hellfire TOW Maverick Missile Systems Firing Reports

The Hellfire TOW and Maverick Missile Systems have taken a significant leap forward in simplifying missile firing report submission by making the submission WEB based. When OPNAVINST 8000.16 Naval Ordnance Maintenance Management Program (NOMMP) was promulgated an unclassified version of the Hellfire and TOW missile firing report was established on the WEB for use by the Fleet. The intent was two fold;

1. Reduce the time required to fill out a report by the fleet that was, at best, a lengthy, time consuming and dreaded process not to mention the report was submitted as a classified Naval message
2. Improve for the individuals involved in missile reliability analyses, the timely receipt of this vital report.

The response initially by the Fleet was overwhelming. We had an increased submission rate 200 percent above previous years for firing reports not to mention they were, for the most part, submitted on the day of the missile firing with few if any errors. In October of 2000 we added the firing report for the Maverick missile system to the WEB and immediately saw a 50 percent increase in report submissions.

The report is simple, mostly point and click for a response with very limited typing requirements. We have taken the old message format with some 99 or so entries and reduced it to 50-60 entries depending on missile type. After the report is filled out the initiator simply clicks on the submit block and the report is transmitted to those individuals who need the information for accomplishing their analysis. If the initiator wants additional individuals to view the report they just have to add the e-mail address in the Point Of Contact (POC) block of the report. Because the database is maintained at NAWCWD Pt Mugu, individuals using the report may submit recommended changes to the Assistant Program Manager Logistics (APML) for review and if approved the change is instantly added to the report format. We do however try to keep the changes to a minimum. An added benefit to this timely submission of the firing report allows the engineers involved in determining missile reliability, to fully evaluate a missile that fails to perform by comparing the firing report and the Conventional Ordnance Deficiency Report (CODR) to determine the cause of the failure. This has allowed us to more accurately report to the Fleet the suspected cause of the failure they reported.

The reports for Hellfire Tow and Maverick missiles can be located on the CNO Redshirt Web page at URL <http://143.113.200.54/redshirt/shirt1.htm> (this should be a book marked page as a favorite), clicking on "systems on line", scrolling down to the correct report and opening. This is a secure site which requires Internet Explorer 4.0 or above with 128 bit encryption. We have had such great success with this program that we encourage other systems to evaluate the possibility of adding more firing reports to the WEB.

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